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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LI, SHI K

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 02/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,088

Applicant(s)

MIZUNO, HIROSHI

Examiner

Shi K. Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-2, 4-11 and 13-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Batey, Jr. et al. (U.S. Patent 6,104,512).

Regarding claims 1, 9-10 and 18-19, Batey, Jr. et al. discloses in FIG. 4 a one-to-plural bi-directional optical communication system comprising an electronic device and a plurality of secondary devices. Batey, Jr. et al. teaches in FIG. 7 a power management scheme where power level is adjusted for each secondary device (equivalent to office of the instant claim) increasing from minimum power until communication is successful. Batey, Jr. et al. teaches in FIGs 5 and 6 a luminous intensity adjusting means for the power management scheme.

Batey, Jr. et al. also teaches a packet-based power management scheme in FIG. 13.

Regarding claims 2 and 11, the packet-based power management scheme uses bit error rate.

Regarding claims 4 and 13, the luminous intensity adjusting means of FIGs 5 or 6 adjusts the drive current to a LED.

Regarding claims 5-6 and 14-15, Batey, Jr. et al. teaches in col. 11, lines 13-19 that the power management method is applicable to any devices that are communicating with infrared, especially portable electronic devices which operate using batteries. This includes host devices and peripheral devices.

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Regarding claims 7 and 16, Batey, Jr. et al. teaches in FIG. 13 and col. 10, lines 52 a timeout window to determine whether if a frame can be received or not.

Regarding claims 8 and 17, Batey, Jr. et al. teaches in FIG. 13, step 1306 to increase or decrease the power level based on the frame content.

3. Claims 10 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamilton (U.S. Patent 6,590,682 B1).

Hamilton discloses in FIG. 7 an optical transmission system for bi-direction space communication comprising two infrared-enabled devices. FIG. 7 illustrates polling sequence 44, 46, ..., 58 for adjusting luminous intensity based on a result of detecting the luminous intensity of the previous transmission.

Regarding claim 13, Hamilton adjusts the transmit diode 38 as illustrated in FIG. 4B.

4. Claims 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimizu et al. (JP Patent Publication 11-112431, provided by Applicant in IDS).

Shimizu et al. discloses in paragraph [0083] the operation of an infrared bi-direction communication system where emission intensity is adjusted based on result of received signal. Error ratio is calculated to determine whether to increase or decrease the emission intensity.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Batey, Jr. et al. (U.S. Patent 6,104,512) in view of Hamilton (U.S. Patent 6,590,682 B1) and Suzuki et al. (5,517,608).

Batey, Jr. et al. has been discussed above in regard to claims 1-2, 4-11 and 13-19. The difference between Batey, Jr. et al. and the claimed invention is the algorithm for adjusting luminous intensity: Batey, Jr. et al. starts with a minimum luminous intensity while the claimed invention starts with a maximum luminous intensity. Hamilton teaches in FIG. 7 to start with a maximum luminous intensity and decrease the intensity until the received intensity is an optimal intensity. One of ordinary skill in the art would have been motivated to combine the teaching of Hamilton with the optical communication system of Batey, Jr. et al. because decreasing from a maximum intensity always gets a positive response instead of a failure based on timeout and, therefore, can quickly reach a minimal power level. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to start with a maximum intensity and decreases intensity until it reaches a optimal value, as taught by Hamilton, in the optical communication system of Batey, Jr. et al. because decreasing from a maximum intensity always gets a positive response instead of a failure based on timeout and, therefore, can quickly reach a minimal power level.

The modified communication system of Batey, Jr. et al. and Hamilton still differs from the claimed invention in the stopping condition. Suzuki et al. teaches in FIGs. 4 and 5 a binary search algorithm where success and failure are used to determine whether to decrease or increase intensity and uses the minimum success intensity as the intensity for data communication. One of ordinary skill in the art would have been motivated to combine the teaching of Suzuki et al. with the modified communication system of Batey, Jr. et al. and Hamilton because optimal receiving intensity level may changed due to factors such as temperature and aging while success and failure are ultimate decision factors. Thus it would have been obvious to one of ordinary skill in

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the art at the time the invention was made to use success and failure as decision factors, as taught by Suzuki et al., in the modified communication system of Batey, Jr. et al. and Hamilton because optimal receiving intensity level may changed due to factors such as temperature and aging while success and failure are ultimate decision factors.

Response to Arguments

7. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 703 305-4341. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-3900.

skl


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